RESOURCE MANAGEMENT in PEACE and WAR

Louis C. Seelig

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Resource Management
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Dedicated to my wife, Jean

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FOREWORD

The rapid political changes brought on by the unexpectedly sudden thaw of the Cold War are creating significant changes within the nation's military structure and practices. With the general tightening of budgets, reduction of forces, and curtailing of programs, resource management is taking on a steadily more important role.

In this essay, the author contends that the changing nature of warfare, the increased expectation of accountability and cost-effectiveness throughout national defense, and the growth of comptrollership as a discipline now require a different approach to wartime resource management. He challenges present United States Army doctrine in this area and offers both a wartime resource management model and five theses toward a revised doctrine.

Not every reader will accept the author's arguments, but few would deny that they provoke thought and suggest reasonable alternatives to historical practice.

J.A. BALDWIN
Vice Admiral, US Navy
President, NDU

PREFACE

The United States Army lacks a clearly defined doctrine for wartime resource management. US Army resource managers are left to their own devices to identify their wartime responsibilities and develop plans to meet them. Many Army resource managers—as well as their commanders—assume they have no wartime responsibilities. They focus on peacetime Program Decision Increment Packages (PDIPs), Program Analysis Resource Reviews (PARRs), and Program Objective Memorandum (POMs), giving little thought to the vital wartime role that resource managers can perform.

My purpose is to broaden this focus by demonstrating the need for resource management in wartime, developing a set of functions for resource managers, and offering a set of principles from which to derive a doctrine for wartime resource management. I hope these proposals will prompt other US Army resource managers to enter this essential debate and develop a consistent, Army-wide doctrine for wartime resource management. I solicit the participation of other US Army resource managers because this doctrine should not be the product of one individual. Certainly, all resource managers can contribute to this doctrine from their own experience.

To help resource managers contribute more effectively to the development of doctrine, I have sketched the pertinent history of Army Resource Management as well

as the major conditions that drive the requirement for a resource management doctrine.

I have identified two such conditions. First, there is a greater demand on our commanders for accountability and cost-effectiveness programs in wartime. Second, the nature of warfare is changing. The economic and strategic forces leading to the next major war—or, more likely, the next series of minor conflicts—will require commanders to develop and evaluate plans where the effective and innovative use of resources can influence decisions as much as the dictates of the operational situation.

I devote much of the first five chapters to ensuring that a common point of departure and set of assumptions will be used in the deliberations leading to the new doctrine. Without this common base, the Army might find itself guilty of retaining an outmoded resource management system that served well enough in past wars, but that will not meet the needs of future conflicts.

LOUIS C. SEELIG

INTRODUCTION

The Department of Defense is in the process of making hard decisions to trim its budget in response to events in Eastern Europe, the Soviet Union, and, indeed, around the world. The most recent Department of Defense projection calls for a real decline of 2 percent in the budget for each fiscal year from 1992 to 1995. Exact reductions are, of course, subject to congressional debate and authorization. But most observers agree that defense budget cuts, of one degree or another, are the foreseeable trend.

In view of these impending reductions, this essay, which calls for a new, vigorous, resource management doctrine for the Army, is especially timely. To improve the established order, to help us make the right choices—and to help ensure that resources are used most efficiently once the choices are made—the time for strong resource management has clearly arrived. As the author demonstrates—quite independently of current events—several historical trends have culminated in a modern defense environment that is not only suitable for, but requires, professional resource management. Were the defense budget, for whatever reason, to reverse current trends and increase, the need for resource management would not be diminished.

The present challenge to Army resource managers, then, is to become active participants in the decisionmaking process; they must use their multidisciplinary skills to help create new opportunities which are based on sound

operational and fiscal analyses. They must become advisors who can improve the operational effectiveness of their organizations by providing systematic, objective scrutiny. Finally, resource managers must retain a broad perspective of the entire operation, while still be willing to go "down in the trenches" where the action is. They must, in short, be helpfully involved in all stages of planning and execution of the mission. This concept is integral to my new "Resource Management 2000" program that I am developing to provide the Army a vision and action plan to take Army resource management into the next century.

Resource Management in Peace and War is a scholarly study, independently conducted, that places resource management in a historical and intellectual context. While this is a personal essay with some healthy intellectual controversy and not an official position of the Department of the Army, it does present timely, thought-provoking, and convincing arguments for further definition of the resource management profession. For the professional resource manager, this essay contains excellent insights into the development of our discipline and identifies areas of future concern for all resource managers as they develop their skills.

As Comptroller of the Army, I am pleased to note that the field of resource management, through publication of this essay, is beginning to receive more attention in respected academic circles such as our senior service schools. We may be on the brink of a widespread recognition of the need for improved resource management, and this essay will both inspire the professional and introduce the newcomer to the growing field of military resource management.

JAMES F. MCCALL
Lieutenant General, US Army
Comptroller of the Army

I. CHANGING TIMES

In wars of the twentieth century, US defense planners have had the luxury of assuming that defense dollars were nearly unlimited. Because they could have virtually anything they demanded with no consideration of cost, military leaders could effectively determine the size of the budget.[1] Enjoying the benefits of maximum national industrial output long before the government became unwilling to pay for it, military leaders often dismissed the need for resource managers who might crimp their war-planning freedoms by sternly cautioning financial economy, as thrifty parents might advise their children that they could buy a wagon or a bicycle but not both. Military planners can no longer assume that defense dollars will be unlimited in time of war.

Naturally, military strategies clearly have an important impact on resource requirements, and the scale of strategic requirements largely dictates the degree of resources required. However, the reverse is also true: the availability of resources can have a significant impact on the ability of military forces to carry out strategies. This fact, perhaps more than any other, dictates the need for strong resource management.[2]

In view of this paradox, it is important to construct the role of the resource manager in such a way that he can maximize his contribution to the planning and conduct of war. A resource manager must be prepared to perform the

functions of resource management to assess the alternatives provided to the commander and determine if they are economically feasible, cost-effective, and supportable.

THE SPOILS OF WAR

In the past, successful warfare brought significant material rewards. Most obvious were the spoils of war, the stored wealth of the vanquished: the gold, jewels, and artifacts, and the territories, indemnities, and tributes that the victor could exact. Equally important was human labor—control over people as slaves or levies for the victor's army. There was also the enemy's productive capacity—agricultural lands and mines. The victor, with control over new wealth, people, and land, could, with this net gain in strength and resources, move on to further conquests. War in the past was useful, satisfying, and profitable for those who won. There was little regard for the damage and destruction done to the enemy or the countryside, or the cost of this success.

During World War I, however, a watershed formed to separate drastically and irreversibly the stream of historical warfare from the stream of modern warfare. Before World War I, men, aided by horses and small cannon, fought wars. Victory came by wounding and killing people and by destroying formations of soldiers, mounted and on foot. But the Great War brought with it great machines and the need to destroy great machines to earn victory. Because it takes more explosive power to destroy a machine than to stop a man or a horse, the cost to wage war rose dramatically.[3] The cost to wage war now far outweighed the obvious return.

World War I was viewed as the "war to end all wars." As a result, after the war we reduced the American military establishment to a negligible power with few

resources. Our Army in the interwar period was no larger than Portugal's, its strength sinking to a low of 130,000 in 1923.[4] The United States did not apply enough money to defense between the wars to worry about resource management. Consequently, not until World War II did we give any serious recognition to the notion of accountability and controlling costs, and the need for a resource management function. But the crisis of World War II and the absence of a resource management structure prevented any meaningful attempts to control the costs of war.

'NOTHING IS TOO GOOD FOR OUR BOYS'

During World War II, when a substantial sum was required for the war, the Army was, for all practical purposes, given an open line of credit. Most Americans, along with their elected representatives, genuinely believed that "nothing was too good for our boys." Consequently, budget preparation within the Army never served as an important management technique. We based budget estimates on planning documents fixing the Army's size and organization. The budget was developed to meet the plan rather than the plan developed to meet the budget. Budget preparation was a mechanical process consisting mainly of translating decisions into cost estimates. Clearly, the intent of budget preparation was to obtain the House Appropriations Committee approval of the estimates, and not the decisions behind them.

In preparing its wartime budgets, the Army, as well as the other services, was always careful to emphasize the "committee's attitude." There was no appropriation estimate specifically identified for procurement, storage and distribution of supplies, transportation, training, administrative services, or management expenses. Instead, the Army's eight autonomous bureaus which dealt separately with the Congress developed the estimates. There were

25 major "projects" or appropriation classifications, each with its own individual budget. These appropriations accounted for 80 percent of the funds spent by the Army. As a result of the decentralized funding scheme, neither the Secretary of the Army nor the General Staff had any effective control over these funds.[5] For example, the estimate for ordnance service and supplies was included in the ordnance appropriation, which was controlled by the Ordnance Bureau. These estimates could not be used systematically to review the adequacy of the Army-wide supply and service operations since they were not integrated with those of the other bureaus.

In 1944, General Brehon Somervell, Commander of the Army Service Forces, attempted to make extensive use of budget preparation as a tool of management information and direction. On one occasion, he asked his own budget office to explore the possibility of developing a budget estimate which could be used for both internal management and appropriation purposes. They informed him that the budget officer of the War Department had previously inquired about the possibilities of a centralized budget and received a report of general hostility to the idea on the part of the House Appropriations Committee. Being busy with the logistical requirements of the war effort, General Somervell dropped the idea.[6] Even though this incident is not detailed, it shows that General Somervell never had control over the resources he needed to support the Army. But with resources as plentiful as they were, he could afford to turn his attentions to other matters.

THE ECONOMICS OF THE BOMB

During the late 1940s and the 1950s, many influential people, fascinated with the power of new weapons, concluded that the hydrogen bomb was the only weapon needed to protect our national security. Strategic weapons

allowed us to prepare for and deter war. In this situation, the resource manager had no wartime role since the enemy would be destroyed in short order at the cost of a handful of hydrogen bombs. Furthermore, defense planners continued to believe that an open line of credit would be available to support any war and that budgeting was only necessary "after the fact" to account for expenditures—but not before the fact during the planning process.[7]

As the Cold War intensified, Congress not only deferred to presidential judgments on defense appropriations, but also cooperated with the Executive Branch on virtually every major defense issue until the mid-1960s. Congress deferred to the Executive Branch for several reasons: their lack of information precluded an educated judgment on the President's requests, the nation's perception of the communist threat appeared compelling, defense issues seemed so intricate that they defied objective evaluation, and the need for solidarity almost mandated support for the President. In many cases, Congress gave the President total approval in advance of resolutions, thereby authorizing him to act unilaterally. Such was the case in Formosa (1955), Cuba (1962), and the Gulf of Tonkin (1964).[8] Congress continued to extend an "open line of credit" to the defense establishment well into the Vietnam era. Witness Secretary of Defense McNamara's 1 March 1965 memorandum: "Under no circumstances is lack of money to stand in the way of aid to that nation."[9] This is particularly ironic considering his subsequent obsession with cost-effectiveness, systems analysis, and econometrics.

Thus, until the mid-1960s, appropriations provided years of plenty for the Army. A nearly inexhaustible supply of funds and resources flowed to the field. Financial control, financial management, and comptrollership became almost irrelevant concepts; everywhere, the Army

sought to develop programs, expand inventories, and enlarge its structure. There were few rewards for fiscal control.

THE PURSE STRINGS TIGHTEN

By the late 1960s, however, public support for the Vietnam War began to dissolve. Reflecting the division among the citizenry, Congress began using its chief power beyond lawmaking—the power of the purse strings—to control the operation of the war. Money bill after money bill carried substantive amendments limiting the President's role in conducting military operations in the field.[10] This change in attitude was evident when Senator Stuart Symington pressed the Director of the Army Budget for "the total cost per month for the Vietnamese operations"—figures which were not available. His concern was a simple one: "The people do not have any idea as to what the basic facts are incident to the cost of Vietnam."[11]

As a result of this type of reception, the Department of Defense eliminated 32 percent of the total fiscal year 1967 supplemental request from the Army. Thus only 68 percent of the Army's requirements were forwarded to Congress. Whether these cuts made by the Department of Defense before submission to Congress were genuine attempts to provide only those funds which Department of Defense statistics indicated were necessary, or were cuts imposed to bring the total supplemental request within levels which might be acceptable in Congress, is a question difficult to answer.[12]

After the height of the Vietnam period, the Department of Defense's open line of credit came due. The Department of Defense experienced significant decreases in defense spending in eight out of ten years. As a share of the total gross national product, defense spending declined

from 9.3 percent in fiscal year 1968, the peak spending year in Vietnam, to 5.0 percent in fiscal years 1978 and 1979. As a share of the federal budget, defense declined from 43.2 percent to 22.9 percent over the same period.[13] While some of the decline was due to the post-Vietnam draw down, the decreases in funding levels nevertheless brought to an absolute standstill any modernization effort and produced claims of a "hollow Army." Failure to be "penny wise" in Vietnam cost the services dearly in subsequent years.

The post-Vietnam era also saw the birth of a new Army leadership ethic: "Let the commanders command." This ethic sought to diminish the power of control agencies such as auditors and accountants. Fiscal control and comptrollers flew in the face of the freedom to command. Concurrently, there was a great movement to increase the "tooth to tail" ratio. Many leaders, both in Congress and in the Army, believed that the Army was top heavy with administrators and, therefore, could not perform its primary role of fighting effectively. You just can't kill the enemy with computer paper.

A further reduction in the number of support units and personnel occurred in the early 1980s with the formation of the light infantry division. The Army needed a rapidly deployable division that was easily air transportable. Furthermore, the Army decided that these divisions would be added to the existing Army divisions, but no additional military spaces would be requested from Congress to provide the required manning levels. Consequently, they had to obtain personnel and billets from within the current force structure. As a result, many of the spaces previously allocated to support functions they now assigned to combat arms functions, further diminishing the Army's capability to manage its resources.

THE NEW LAW

The current movement to eliminate the notion of the open line of credit in defense planning and put some teeth into resource management culminated in 1986 with the President's Blue Ribbon Commission on Defense Management, chaired by David Packard. The commission found no rational system where the Executive Branch and the Congress reach agreement on national military strategy, the forces to carry it out, and the funding that should be provided. The commission cited this condition as particularly important in light of the overall economy and competing claims on national resources. According to the commission, the absence of such a system contributes to the instability and uncertainty of our defense program, causes imbalances in our military forces and capabilities, and ultimately increases the costs of procuring military equipment.[14]

The Packard Commission recommended that the Secretary of Defense instruct the Chairman of the Joint Chiefs of Staff to prepare a fiscally constrained military strategy that best achieves the national security objectives.[15] This recommendation marks a complete departure from the *de facto* open line of credit historically extended by Congress. The recommendation was, in fact, followed in the construction of the Goldwater-Nichols Department of Defense Reorganization Act of 1986. The Chairman of the Joint Chiefs of Staff will prepare "fiscally constrained strategic plans as a new statutory duty."[16]

Whether one feels that Congress placed the national defense unwisely in the hands of auditors or that the nation finally has a sound basis for defense planning, the fact is that resource management is now the law. Congress' use of its absolute fiscal power, along with the DOD Reorganization Act, will affect profoundly the way the Army

manages its resources in the future. We now must be ready and able to provide commanders with alternatives to accomplish the missions assigned under a resource-constrained planning process. These stringencies create new demands on the resource manager, demands that require the resource manager to take an active role in the planning process.

Clausewitz asserted that we should never regard war as an autonomous act but always as an instrument of policy. If we wage war with no political goal, its sole objective will become the complete destruction of the enemy, regardless of the cost.[17] But in the future, nations may find themselves unable to afford to pursue such an apolitical objective. Instead, future wars must be tied to a policy which will include at least some pragmatic consideration of the cost, lest a nation—even the United States—find itself waging a war not that it can't win but that it can't pay for.

II. CONGRESSIONAL AND MEDIA INFLUENCE

> The art of war is of vital importance to the state. It is a matter of life and death, a road either to safety or to ruin. Hence it is a subject of inquiry which can on no account be neglected.
>
> —Sun Tzu Wu, *The Art of War*

The United States Constitution gives Congress the exclusive power to raise revenue, to raise and support armies, and to provide and maintain a navy.[18] Yet until the Congressional Budget and Impoundment Control Act of 1974, Congress did not have the means to evaluate the defense needs of the country or to challenge the administration's budget request to meet this critical requirement.

THE SEARCH FOR MEANS

At the beginning of the Vietnam War, Congress regarded the Vietnam requirements in much the same light as those for World War II and the Korean War. But as the war developed into one of attrition and the antiwar movement generated intense popular opposition to the continued war effort in Southeast Asia, feelings of frustration

weighed on the minds of congressmen. Although they wanted to provide our military with the necessities, they also wanted to satisfy a domestic agenda at a time when it was becoming more and more apparent that defense costs constituted a major factor in determining national taxes. The time came when the programs of the "Great Society" finally came about—a time when the role of government was greatly expanding. These times brought to the forefront the dilemma of defense versus social programs, the classic conflict of guns versus butter. While the connection between security, domestic issues, and economics became increasingly apparent to Congress, sharp differences of opinion on organization, strategy, and troop deployment developed in efforts to balance the country's requirements. Faced with these competing demands, Congress had great difficulty making hard budget choices because of constituent pressures and a number of institutional factors.

One of the institutional factors interfering with Congress' participation in military matters was the fractionalization of its power and influence. That is, the committee system which dominated Congress also conveniently allowed members of the legislature to insulate themselves from constituent pressure. Therefore, legislation adopted by Congress was not the result of discussion by the full body but, rather, the consequence of discrete and tedious committee work. The primary influence came from committee chairmen, who could be influenced by special interest groups. An indication of the fractionalization of power in Congress over defense matters is the number of committees that exert budgetary or oversight authority in the defense acquisition process. A report prepared by the Logistics Management Institute for the President's Blue Ribbon Commission on Defense Management identified 55 subcommittees with jurisdiction over matters specifically affecting defense acquisition.[19]

Consequently, when Congress received the President's budget—the budget containing his annual spending and revenue proposals—it would act piecemeal on the budget request. No means existed for the Congress to establish its own total spending and revenue levels or broad spending priorities to serve as guidelines for both houses to follow.[20] As a result of this operational structure, there was no focal point in Congress to bring disparate views together. Congress was unable to determine coherent national priorities, except implicitly, when the budget was enacted.[21] Even then, its expertise on budgetary matters placed it at a disadvantage in dealing with the Executive Branch.

THE NEW BUDGET PROCESS

To arm itself with relevant facts and analyses, Congress established a congressional budget process with enactment of the Congressional Budget and Impoundment Control Act of 1974, a response to the increasing realization among members of Congress that they had no means to develop an overall budget plan.[22] Congress also created the Office of Technology Assessment, and strengthened the Congressional Research Service and the General Accounting Office. Now Congress can directly inquire into political wartime options and make intelligent decisions on resource allocation.

The Act also created the Senate and House Budget Committees, which now have responsibility for drafting the annual budget of Congress for consideration by the entire legislature. In addition, it created the Congressional Budget Office to support Congress in the process by supplying economic and program analysis and cost information on existing and proposed legislation. The Congressional Budget Office's independent, nonpartisan professionals provide Congress with the expertise long held by only the Executive Branch.

As Congress reached out for new roles and a greater share of power, it began concurrently to acquire the information and means to underwrite its new activities. From June 1974 to March 1984, the Congressional staff grew from 36,403[23] to 41,945,[24] a 15 percent increase. In short, through its legislative power, Congress began to change the structure and extent of the information flow coming to it from the Executive Branch.

The implications of the new budgetary process for the Defense Department were and still are significant. In spite of its new capabilities, Congress will probably say, "If we must fight, then we'll spend whatever is necessary to win." But Congress is now in a position to say also, "If you, Mr. President, must commit forces to that place, we are in a position to evaluate what is necessary to support your commitments." No longer must Congress defer to Executive judgment.

Connected with this new confidence, of course, is a desire to restrict commitments. No one can predict whether Congress will be inclined to approve or disapprove specific uses of force. The trend, however, is clear: Congress intends to become more involved in the requirements determination process of the Defense Department and insist on accountability and cost-consciousness on the part of the country's military establishment, from the Commander in Chief to the Army commander—and his comptroller—in the field.

LEGISLATED POWER

Another indication of the changing role of Congress in national security matters is the War Powers Resolution, passed in 1973 over President Nixon's veto. The controversial resolution restricts the President's ability to wage prolonged undeclared war. Members of Congress viewed the Resolution as an exercise of the Constitutional "war

powers'' of Congress and ''necessary and proper powers'' to ensure that the collective judgment of both the Congress and the President will apply to the introduction of US armed forces into hostilities, or into situations where imminent involvement in hostilities is clearly indicated.[25]

Many people may find the fiscal power of Congress excessive; however, congressional involvement may result in more carefully measured decisions on the use of force. Congress will, for the first time, be playing a full role in the decision process. War is not a mere act of policy but a true political instrument, a ''continuation of political activity by other means.''[26] The political object is the goal, war is the means of reaching it, and means can never be considered in isolation from their purpose. While Congress has always been concerned with the overt political considerations of every American war, Congress is now beginning to examine the fiscal constraints—and demanding that the country's armed forces do so as well.

FRONT PAGE NEWS

As with Congress, the media are different today than they were during World War II—the era of Ernie Pyle, the war correspondent who was killed in the Pacific just before the end of World War II. Ernie Pyle wrote about the grunt's-eye view of the war. He rarely covered the big picture. He made his name writing about the relatively simple, focused existence of men in combat, not about the complexities of the military budget, or quality control in defense plants, or whether women should be in combat, or the mysteries of nuclear war.[27]

Today the trend of media reports has shifted from the grunt's-eye view to the bird's-eye view. Since the early 1980s, the media have taken up the mantle of challenging defense requirements in light of the significant government deficit, unfavorable balance of payments, and the overall

impact large defense expenditures have on the economy. The impact of this shift is significant. Reports of the DIVAD gun "locking on" to a range latrine, and ready to fire, along with its other faults, helped cause the demise of that system. Reports questioning the performance of the Bradley Fighting Vehicle placed future funding for it in jeopardy. Charges by the media of cost overruns, along with poor management, $75 hammers, and spare parts horror stories uncovered by the Defense Department itself, invited increasing scrutiny of the Defense Department budget.

Times have changed for the Army's commanders with the increased interest and capability of the media, particularly with the advent of the Freedom of Information Act. The media can now obtain information not available before the passage of the act. Commanders must, therefore, be more aware of costs and accountability—even during war—or they may find themselves on the front page of the *Washington Post* or the *New York Times*.

III. DEVELOPMENT OF ARMY COMPTROLLERSHIP

Military history abounds with the dramatic fare of battles and campaigns, but definitive analysis of administration of the Army is a relatively neglected field.[28] In many cases, this field is not well understood even when it is reported. Much of the perception of resource managers in particular comes from the fact that the contribution of resource management in war is not known and seldom reported. Consequently, our military schools do not teach resource management in war as part of the curriculum. Thus military planners largely overlook resource management in the course of developing and conducting war strategy. This oversight may result in commanders developing overly ambitious strategies that can't be supported by the limited resources available, and possibly dooming the strategies to failure.

One explanation for this lack of administrative history and the absence of resource management in planning is that many join the military because they are interested in combat and combat related duties, not business management, public information, or government relations. They don't sign up for desk duty to prepare budgets or lobby Congress. As a result, most military officers aren't trained for these activities. Many officers only become resource managers to prepare themselves for a job after they retire. The perception among the combat types is that resource

managers are civilians in green suits who should disappear when the war starts. The resource management function just does not have any "macho" appeal.

Despite the lack of enthusiasm for military resource management careers, it is an undeniable fact that finances are critical for carrying on war as well as for determining strategy. Over 300 years ago, Jean Baptiste Colbert, the controller general for France, said, "Finance is the vital nerve of war."[29] According to Publius Cornelius Tacitus, a Roman historian and orator, money provides the "sinews of war."[30] And looking even further back, to the oldest known treatise on war, Sun Tzu wrote, "Raising a host of a hundred thousand men and marching them great distances entails heavy loss on the people and a drain on the resources of the state. The daily expenditure will amount to a thousand ounces of silver. There will be commotion at home and abroad. . . ."[31] The cost of war is so fundamental and so important that it must be a primary consideration in planning and conducting war.

BUSINESSMEN IN UNIFORM

It is interesting—perhaps vital—to note that the need for resource management expertise often was fulfilled during wartime by the lateral entry of financial specialists from the business world to the military; these resource managers, though, seldom became an influential part of the strategic planning structure. In both world wars, for example, the United States called large numbers of civilians into the services directly from industry and commissioned them as officers.[32] The military departments noticed as early as World War I how the recruitment of businessmen imbued the departments with a different outlook—an outlook that should be provided by the resource manager. According to Alan Milward, "for good or ill, the tendency of businessmen was to look to the future."[33]

The creation of the Control Division within the Army Service Forces during World War II, a major administrative reform, is a case in point. The Army drew the staff for the Control Division, for the most part, from civilian management experts rather than military officers, because the officers had little experience with resource management.[34]

A reorganization within the Army Service Forces during World War II further illustrates how the recruitment of civilian experts filled the resource management void. During the war, the Army Service Forces set up a Fiscal Division as part of its staff organization. This division combined certain budgetary and other fiscal duties and often duplicated work of the Office of the Chief of Finance. For a time, Army Service Forces had, in effect, two staff offices concerned with fiscal matters. Then the two amalgamated, and the Chief of Finance became deputy fiscal director.[35] The new Fiscal Director, Arthur H. Carter, a senior partner in the accounting firm of Haskins and Sells, was a private citizen appointed as a major general during the war. Had the Chief of Finance at that time, General Howard Loughry, been more aggressive, the roles might have been reversed, and an active duty general officer could have been appointed as Fiscal Director. But General Loughry did little to anticipate American involvement in the European war. Rather than gearing his office for wartime planning, which obviously would have required a larger staff, he actually allowed the loss of one position between 1940 and 1941.[36] As a result of Loughry's lack of foresight in wartime planning, a private citizen, commissioned a major general, was hired to replace him as Fiscal Director of the Army Service Forces.

A COMPTROLLER FOR THE ARMY

After World War II, a congressional committee reviewing the Army's performance during the war reported

that there had been "unconscionable wastes of money" through two shortcomings. First, the best modern business methods and practices were neglected by the War Department in favor of their own bureaucratic institutions and traditional ways of doing business. Second, there was no competent analysis and reporting machinery to furnish the Secretary of War information on which corrective action could be based.[37]

As a result of the congressional report, the Secretary of War appointed Edwin C. Pauley, on 3 September 1947, as his special assistant to study the "business practices" of the Army. Mr. Pauley's report, submitted in late 1947, concluded that the principal deficiency was a lack of knowledge about the real cost of the various activities undertaken throughout the department. The accounting that existed was usually unique within each organization, with the result that no common denominator existed on which overall cost analyses could be prepared. No one from the Secretary of War on down knew the real costs of operations for which they were responsible.[38]

At about the same time that Mr. Pauley submitted his report to the Secretary of War, the Haislip Board, a board of high-ranking officers, submitted a report to the Chief of Staff. This board, set up in early 1947, reviewed all policies and programs of the postwar Army to determine what policies and programs should govern the Army in the future. It was also critical of the conduct of the war. In the board's opinion, "neither the organization, the procedures, nor the general attitude of the Army is conducive to maximum economy."[39] Included in the recommendations of the board was the establishment of a management-engineer function to keep the organization and methods of the Army under continuing survey to ensure constant attention to efficiency and economy.[40] The Army, whether it knew it

or not, had just been introduced to the notion that it needed a comptroller.[41]

As a result of these studies, both Secretary Kenneth Royall and the Chief of Staff, General Eisenhower, agreed that there should be an official at the highest level in the Army both to specialize in improving the accounting and reporting methods and to study the organization and procedures of the department. They agreed that the most descriptive title for such an individual, to parallel business and industrial practice, would be Army Comptroller.[42] A precedent for both the title and most of the functions already existed in the Office of the Air Comptroller, which the Air Force recommended to the Army as a device which had improved the efficiency and economy of Air Force operations.

Secretary Royall favored appointment of a civilian as Comptroller, who would work directly under the Secretary, while General Eisenhower preferred that the Comptroller be part of his military staff. General Eisenhower's view prevailed. A Comptroller for the Army was formally created by Department of the Army Circular No. 2, dated 2 January 1948, which provided for a military comptroller with a civilian deputy within the Office of the Deputy Chief of Staff (see page 24).

The establishment of the Comptroller position most clearly responded to three major points that had emerged from the early investigations and the resultant criticisms of the Army's financial management:

1. The Army had entirely too many fiscal masters.

2. The Army divided fiscal authority from command authority.

3. The organization, procedures, and general attitude of the Army was not conducive to maximum economy.

Cir 2

CIRCULAR No. 2 } DEPARTMENT OF THE ARMY
WASHINGTON 25, D.C., January 1948

Effective until 2 July 1949 unless sooner rescinded or superseded

ARMY COMPTROLLER

1. In order to improve the use of modern management techniques in the business administration of the Army, and to utilize accounting more effectively as a tool throughout the Army in the control of operations and costs, the Office of the Army Comptroller is hereby established as a part of the Office of the Deputy Chief of Staff, United States Army.

2. The personnel and functions of the Budget Division and the Manpower Board, Special Staff, United States Army, and of the Central Statistical Office and the Management Office of the Chief of Staff, are transferred to the Office of the Army Comptroller.

3. The Army Comptroller shall serve, either personally or through designated representatives, as he may elect, as the Budget Officer (Sec. 214, Budget and Accounting Act of 1921) Fiscal Director, and Management Engineer for the Department of the Army. As such he formulates, coordinates, and supervises those matters pertaining to budget, fiscal, statistical, and management engineering activities of the Department of the Army. His duties include:

a. Development of a plan for the business management of the Department of the Army and the presentation of periodic reports thereon to the Chief of Staff.

b. (1) Preparation of plans and procedures for, and exercise of general supervision and control over, all budgetary matters of the Department of the Army, under policies established by the Chief of Staff.

(2) Preparation of military and civil budget estimates of the Department of the Army (Sec. 214, Budget and Accounting Act of 1921).

c. Development of systems and procedures for utilization throughout the Army of accounting and auditing for purposes of control of operations and costs.

d. Formulation, coordination, and general supervision of basic fiscal policy for the Department of the Army.

e. Establishment and supervision of Department of the Army fiscal policy with respect to international monetary matters and the use of foreign exchange by the Army overseas.

f. Continuing survey and development of a Department of the Army cost analysis, reporting, and control system.

g. Continuing survey of the effective utilization of manpower in its relationship to appropriations and to economy.

h. Continuing survey of the Department of the Army's organization, methods, and procedures in the interest of efficiency and economy.

i. Coordination of the collection, analysis, and presentation of statistical data, including progress reports.

4. All changes are effective this date.

5. Circular 138, War Department, 1946, is amended accordingly.

[AG 020 (2 Jan 48)]

BY ORDER OF THE SECRETARY OF THE ARMY:

OFFICIAL:
EDWARD F. WITSELL
Major General
The Adjutant General

DWIGHT D. EISENHOWER
Chief of Staff, United States Army

Department of the Army Circular No. 2, 2 January 1948

But suspicion persisted in some influential quarters that control and accountability put "dollars before national security," or would result in going to war with "cut-rate, cut-quality, cheapest-to-buy weapons." Many commanders insisted, "Nothing but the best will do for our troops." Implicit in this challenge was the deeply rooted feeling that national defense was far too important a matter to be inhibited by cost.

To help shore up the position of Comptroller in view of these objections, the position of Comptroller of the Army was mandated in law. The functions and responsibilities of the Army Comptroller obtained their statutory authority upon the passage of the National Security Act Amendments (Public Law 216, 81st Congress) of 10 August 1949. Those amendments resulted when the Commission on Organization of the Executive Branch of the Government, generally known as the Hoover Commission, reconfirmed the need for a formalized resource management structure in the Department of the Army. Former President Herbert Hoover set up a special task force composed of eminent accountants with wide government experience to examine the budgeting and accounting in every part of the Executive Branch. In addition, he directed a specific investigation of the budgeting and accounting issues in the defense establishment. Much like Mr. Pauley, Mr. Hoover was critical of the "startling state of affairs" of the military budget system which, he claimed, "do not permit ready comparisons, they impede administration, and interfere with the efficiency of the Military Establishment." This task force affirmed the critical need for a resource manager within the structure of the Department of the Army and created the 1949 amendments which mandated a Comptroller of the Army.[43]

A NEW PERSPECTIVE FOR RESOURCE MANAGEMENT

The lateral transfer of civilian experts provided the Army's financial management capability during the world wars. The absence of such lateral entry during the Korean War, and even of any Army Reserve and Army National Guard call-up of experts during the Vietnam War, created unprecedented difficulties in management of the services, requiring many military personnel to handle responsibilities for which they were little prepared. This lack of experience in resource management goes far to account for the Vietnam era problems and scandals which racked the Army. It may also explain the rationale for the Army's major post-Vietnam reform to its resource management function—the establishment of a comptroller specialty in the new Officer Personnel Management System.[44]

Currently, the need for a more comprehensive resource management perspective is evidenced by the recent enactment of the Goldwater-Nichols Department of Defense Reorganization Act of 1986. This Act has eliminated the Office of the Comptroller of the Army as a separate staff office under the Chief of Staff and made the function of comptroller and financial management the sole responsibility of the Office of the Secretary of the Army.[45] This organizational change is not what is most important, since the Comptroller of the Army has reported directly to the Assistant Secretary of the Army for Financial Management since 1949. What is important is the logic behind the change. Congress noted that the service secretaries apply a different set of experiences and viewpoints on program management to reach an optimum decision. They believe the political, budgeting, and academic points of view and skills can help provide better overall decisions than if only military skills and views are present.[46]

This recognized requirement for a greater knowledge and a broader perspective is derived from the need to apply the unique skills of resource management to achieve the objectives of the commander. Our fundamental thinking must start with the basic premise that resources are always limited. In terms of general principles, fiscal capabilities limit the combat forces which can be created. At the same time, logistic capabilities limit the forces which can be employed in combat operations. In sum, fiscal factors determine the limits of strategy. The resource manager must have a thorough knowledge of the management control structure and process, the warfighting doctrine, and the capabilities of the organization as a warfighting instrument. Most important, the resource manager must master the art and science of war. This single factor differentiates an officer from a civilian with a similar skill.

IV. GLOBAL ECONOMIC INTERDEPENDENCE

The events of the last three decades have forced a reappraisal of those concepts of war commonly held by the majority of our people. Thirty years ago, most Americans generally considered war as a specialized form of brutal, formal contest in which nations engaged only after failing to solve differences by negotiation. We considered, perhaps naively, that the usual state of man was peace.

Now we see international relationships somewhat differently. The usual state of man—and of nations—involves competition, and in an expanding world, international competition involves a struggle for existence and hence a conflict of interests. Many of the sources of these conflicts are economic: the desire to attain or maintain a high standard of living, the problem of supporting an excessive population, the need to control sources of raw materials, the development of trade routes to obtain raw materials and distribute finished goods, and the desire to dominate the focal points of world trade routes. (See Table 4:1 on page 30 for US dependence on foreign sources for minerals.)

The competition for an economic advantage may intensify to a point of economic warfare and then combine with social and ideological competition to produce violent conflict. In this event, the enemy's armed forces and his economy both become targets for destruction or control.[47]

	U.S.A.	MAJOR SOURCES
COLUMBIUM	100	Brazil, Canada, Thailand
MANGANESE	100	Republic of South Africa, France, Brazil, Gabon
MICA (sheet)	100	India, Belgium, France
STRONTIUM	100	Mexico, Spain
BAUXITE & ALUMINA	97	Australia, Jamaica, Guinea, Suriname
COBALT	95	Zaire, Zambia, Canada, Norway
PLATINUM GROUP	92	Republic of South Africa, UK, U.S.S.R.
TANTALUM	92	Thailand, Brazil, Malaysia, Australia
POTASH	77	Canada, Israel
CHROMIUM	73	Republic of So. Africa, Zimbabwe, Yugo., Turkey
TIN	72	Thailand, Malaysia, Bolivia, Indonesia
ASBESTOS	71	Canada, Republic of South Africa
BARITE	69	China, Morocco, Chile, Peru
ZINC	69	Canada, Peru, Mexico, Australia
NICKEL	68	Canada, Australia, Botswana, Norway
TUNGSTEN	68	Canada, China, Bolivia, Portugal
SILVER	64	Canada, Mexico, Peru, United Kingdom
MERCURY	57	Spain, Algeria, Japan, Turkey
CADMIUM	55	Canada, Australia, Peru, Mexico
SELENIUM	54	Canada, United Kingdom Japan, Bel.-Lux.
GYPSUM	38	Canada, Mexico, Spain
GOLD	31	Canada, Uruguay, Switzerland
COPPER	27	Chile, Canada, Peru, Mexico
SILICON	23	Brazil, Canada, Norway, Venezuela
IRON ORE	22	Canada, Venezuela, Liberia, Brazil
IRON & STEEL	22	European Economic Community, Japan, Canada
ALUMINUM	12	Canada, Japan, Ghana, Venezuela
NITROGEN	8	U.S.S.R., Canada, Trinidad & Tobago, Mexico
SULFUR	5	Canada, Mexico

Source: US Bureau of Mines, 1985

Table 4:1—Net Import Reliance on Selected Nonfuel Minerals

THE SHIFT IN PRODUCTION

The potential for economic warfare is more complicated than the simple struggle to protect the sources of raw materials. Today, and increasingly in the future, the United States needs to strengthen its production chain and define its national security objectives in terms of economic productivity. We are finding that, in less than a decade, the United States, the world's largest creditor nation, has become its leading debtor. Foreign competition has humbled some of America's mightiest companies. Hundreds of thousands of manufacturing jobs in the "smoke stack" industries have disappeared, and middle-class living standards have declined in many communities.

In the future, much of the material goods that contribute to our quality of life will be obtained from foreign sources. From the defense perspective, Pentagon strategists recently discovered that if war broke out, Soviet bombers could gravely wound the United States simply by attacking a small German plant 30 miles west of the Czechoslovakian border. The plant makes all of the high-purity silicon the United States buys for chips used in thousands of missile guidance systems. Destruction of the plant would stall US missile production for months, crippling the West's capacity to resupply its forces with missiles. Ball bearings in US submarines, aircraft, and tanks come increasingly from Europe and Asia. Some Navy ships ride at anchor on Spanish chains. Military officials concede that the US arsenal is riddled with foreign-made parts that might not be available during a global crisis. In wartime, this weakness could emerge as the soft underbelly of the recent defense buildup. The days of "Made in the USA" are slowly slipping away.[48]

One of the major forces causing this shift is that all of the countries on the world's economic scene are growing

increasingly interdependent. Whether we endorse this new direction or not, we are obliged to respond to it. The United States is in the midst of a powerful twofold change as part of this new era. First, we are shifting from being an isolated and virtually self-sufficient nation to becoming part of an interdependent, global economy. To illustrate, between 1981 and 1984, imports captured 42 percent of the growth in domestic American spending. Even such a historically strong exporting industry as agriculture lost half its foreign markets between 1981 and 1984. Imports of computers and office equipment soared 50 percent in 1984. Electrical machinery imports were up 38 percent. Overall, 20 cents out of every dollar spent by Americans went into imports in 1984.[49] Second, we are giving up our former role as the world's dominant economic force and becoming a member of a growing handful of economically strong countries.

As the nations of the world move toward a global economy, it is no longer clear who is going to make what. We are witnessing a global redistribution of labor and of production: Spain and Brazil are replacing Japan and Sweden as shipbuilders; the United States is yielding to Third World countries on apparel, steel, and automobiles.

Over the next decade, we will see a number of "new" Japans. The twenty fastest-growing economies for the period 1970-77 were all Third World countries. Botswana was up an annual average of 15.8 percent; South Korea was up nearly 10 percent; Singapore was up 8.6 percent; and the Dominican Republic was up 8 percent. These Third World countries are growing with purpose and design: South Korea, Taiwan, Brazil, and Singapore invested between 25 and 35 percent of their gross national products into their economies, nearly twice the rate of the United States. During the past decade, the Third World

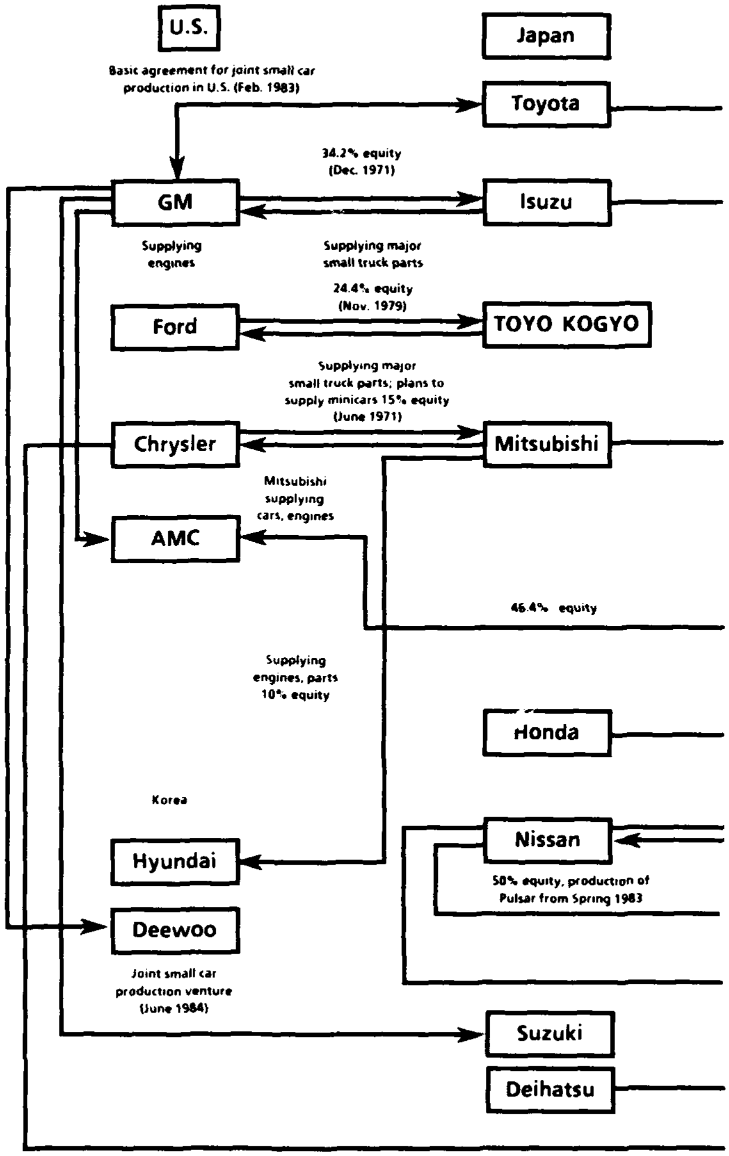
has begun to take up many of the developed world's industrial tasks.[50]

Economic changes which shifted the manufacturing of components from the United States to foreign sources may have some favorable security effects by linking countries more closely with each other and with the global community. Nevertheless, these economic changes also challenge the existing order, the existing stability so important for strategic security. Figure 4:1 is an example of the interrelationships of the firms that have adapted to this economic change. The United States must now be concerned not only with the continued supply of raw materials but also with the supply of component parts produced from foreign sources, and must adjust its security arrangements accordingly.

FINANCING PARTNERSHIPS

In addition to the shift in the actual manufacturing production, we are finding many US firms developing financial relationships with overseas firms. These financing arrangements will also subject the United States to increasing vulnerability.

As this interdependence develops, global partnerships become an important new strategic option that touches every sector of the world economy. To remain competitive, companies are looking for the least expensive subcontractor or supplier. Many have found that "offshore" contractors can provide a quality product at considerably less cost. Some of the movement toward foreign partnerships, interestingly, is driven by the Competition in Contracting Act. This may mean going to a foreign source to obtain the lowest-cost component since there are no prohibitions against obtaining supplies or services from foreign sources for defense contractors.



Source: *Ward's Automotive Yearbook, 1984*, p. 52; *The Wall Street Journal*, 15 June 1984, p. 4.

Figure 4:1—Cooperation between World Automakers

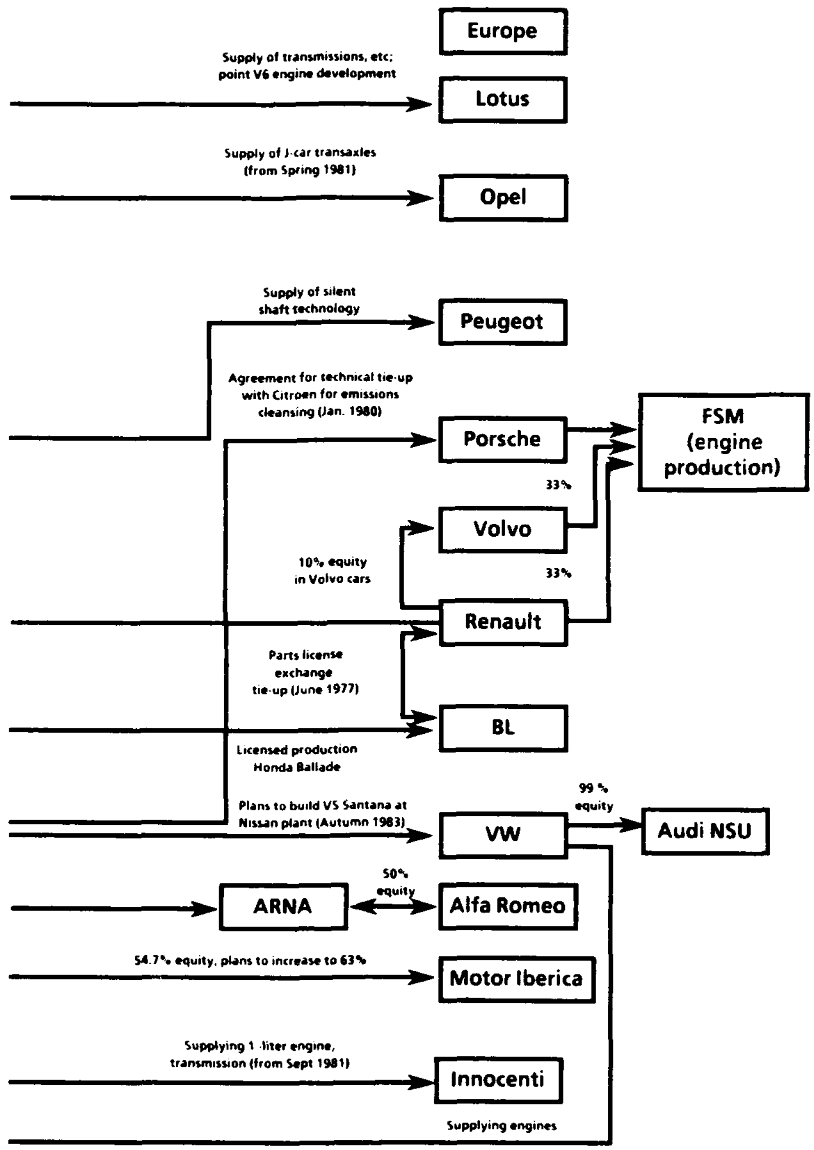


Figure 4:1—Cooperation between World Automakers (continued)

In the future, few companies will achieve international leadership and few nations will prosper in the world economy without some set of global strategic partnerships in their portfolios. Examples of these already exist:

- AMC's link with Renault seven years ago gave the US automaker an infusion of capital and experience with front-wheel-drive cars, and opened up the United States market to the French company. Since then, Ford, GM, and Chrysler have consummated production deals with Mazda, Toyota, Suzuki, Isuzu, and Mitsubishi, and with emerging South Korean automakers.
- American high-tech companies formed two coalitions, the Microelectronics and Computer Cooperative and the Semiconductor Research Cooperative, to buffer the competitive shocks of similar groups from Japan, the "new" Japans, and Western Europe.
- Recently, the Pentagon disclosed its agreement to exchange proprietary radar technology for Japanese expertise in missile guidance systems.[51]
- In another case, an American company is currently exploring the possibility of developing a joint fishing venture with the Pacific island government of Kiribati. Americans would supply the vessels and other equipment but the two countries would share the profits.[52]

As global strategic partnerships proliferate, strategic issues will become even more complicated, and the boundaries between companies will become blurred. If single companies no longer set strategy, and if groups of

companies negotiate common interests with foreign governments, the international political arena is bound to change.

Global strategic partnerships may challenge our traditional concept of national sovereignty. Notions about economic competitiveness may be rendered obsolete. No country can afford to be excluded from joining in strategic partnerships, just as no company can avoid the shifting patterns of global supply and demand. Indeed, the nation-states that prosper in the years ahead will be those that nurture a series of global strategic partnerships that stress the values of parity and mutual benefit.

The increased emphasis on "offset" financing is a good example of partnerships that stress parity and mutual benefit. This is a throwback to the barter system of years ago, as the United States attempts to help satisfy the Third World's debts and produce a more favorable US balance of payments.

Mexico, for example, began a large development surge during the early 1970s as a result of finding large oil reserves at the same time oil prices were being driven up by OPEC. As the price for oil eroded in the early 1980s, Mexico was unable to service the debt, incurred during the oil shortage, that was used to develop the country. When no further debt financing was available, the initiatives had to stop as a result of the capital drying up. This led to their inability to pay even the interest on the loans they obtained from US banks. The US banks were concerned that such a large unpaid debt could cause them to go bankrupt. Alternatively, Mexico offered a large, cheap, and unused manufacturing capacity that was attractive to US industry. Many US firms negotiated with the firms in Mexico to take control over the manufacturing operations with the understanding that the US firm would pay off Mexico's

debt to the United States. The result is that everyone won. The banks got their money, Mexico had the debt paid, and the US firm has control over an operation with a much lower operating cost than it would have in the United States.

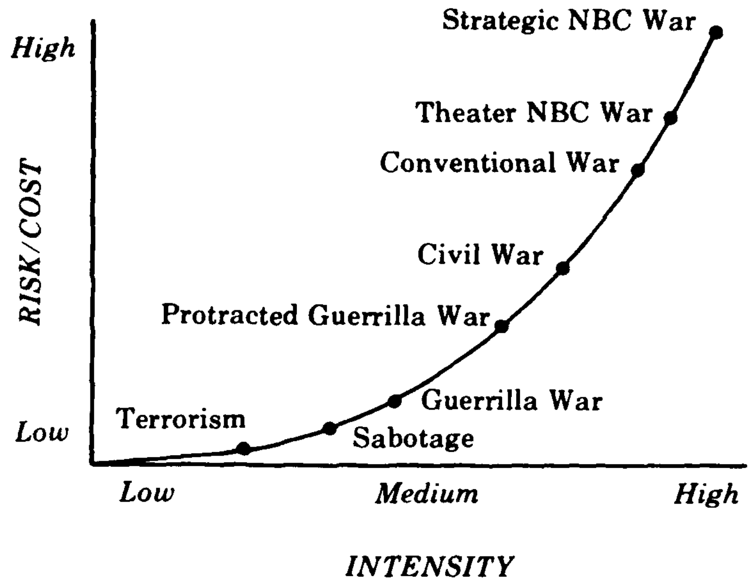
THE THREAT OF LIMITED WAR

Intraregional conflict in the Third World has the potential for disrupting this existing economic order as developing nations become major suppliers of critical materials to the United States.[53] Stationing of troops by the Soviet Union and their Cuban surrogates will further increase the likelihood of such conflicts and may provide the Soviet Union opportunities to expand its influence at the expense of the Free World. This poses a threat to the welfare of the United States, particularly when these regions may be major producers of components of our weapon systems or providers of many of our consumer goods.

Economic factors could also threaten the flow of resources and components. The rising price of oil in the 1970s emphasized the importance of territorial and border disputes that had been, until then, mostly insignificant. In the 1970s, as oil prices rose, a number of disputes came to the fore over offshore drilling rights. Should oil prices rise again in the 1990s, as many expect, problems could re-emerge, since many of the unresolved boundaries around China, Japan, Korea, Taiwan, the Philippines, and Vietnam are in prospective oil-producing areas.[54]

THE SPECTRUM OF CONFLICT

While the complexities of competition cannot always be precisely defined or delimited, figure 4:2 on page 39 shows a "spectrum of conflict" which illustrates the range of potential conflicts that may occur. From the perspective



Source: Paul F. Gorman, "Military Instruments of Containment," in Terry L. Deibel and John Lewis Gaddis, eds., *Containment: Concept and Policy* (Washington, DC: National Defense University Press, 1986), p. 225.

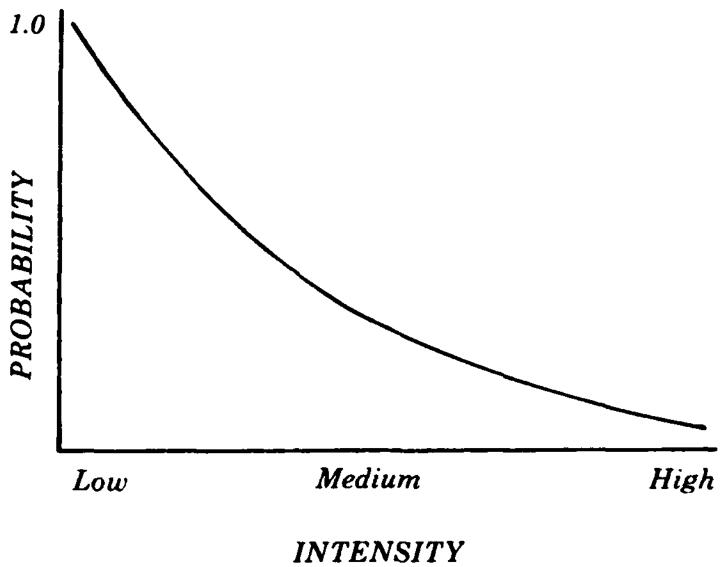
Figure 4:2—The Spectrum of Conflict

of the United States, there are several levels of conflict. High intensity conflict describes the relatively unconstrained use of available military forces and weapons, including nuclear, chemical, biological, or other weapons capable of affecting large numbers of people or broad expanses of territory. Mid-intensity conflict implies limitations on the use of weapons of mass destruction, but assumes employment of conventional military forces and weapons in a given region with extensive destruction and heavy casualties among participants. Low intensity conflict, in contrast, refers to situations in which the perpetrators of violence resort to coercive crime, sabotage,

subversion, terrorism, or guerrilla warfare, and the United States limits its military response either to direct action by its special operations forces, to advising or supporting a threatened ally, or to positioning US forces to deter escalation of the conflict by third nations.[55] Historically, US war planners have concentrated their planning on the high side of the curve. However, the global economic links which the United States must now concern itself with can only increase the possibility of a limited conflict to protect a limited interest. Thus more planning is required at the lower end of the spectrum. The low end of the spectrum is also where the resource manager in the theater of operations could provide the greatest contribution in the planning and the conduct of the war.

To illustrate the war planner's concept of the most likely war, figure 4:3 on page 41 plots conflict probability versus intensity. This relationship dictates the type and size of force that will be required. The type and size of the combat force will also define the size of the support element that will deploy with the combat force. Based on the types of war and their probabilities, the military should construct functions and doctrinal employment of resource management.

Perhaps the best conclusion is that resource management requires a degree of flexibility geared to the intensity of the conflict. "Limited" wars will require increased resource management actions, although these actions may be severely constrained. Resource management also will be constrained during the ambiguous early warning period preceding a limited crisis. Development of limited resource management programs which avoid excessive or premature control or over-expansion, while still providing the needed levels of resources, may be the greatest challenge facing the resource management planner.



Source: Paul F. Gorman, "Military Instruments of Containment," in Terry L. Deibel and John Lewis Gaddis, eds., *Containment: Concept and Policy* (Washington, DC: National Defense University Press, 1986), p. 226.

Figure 4:3—Probability versus Intensity of Conflict

The growth of the Third World, the shift of industrialization patterns, and the creation of financing partnerships have significant implications for the strategic issues and defense preparedness of the United States. These factors have increased the strategic vulnerability of the United States. We can no longer limit our attention to only events that occur in Japan and Western Europe; we must be concerned with events that occur throughout the entire world.

An examination of the spectrum of conflict in light of the economic events of the last 20 years makes it increasingly evident that the United States must be prepared to use military force effectively throughout the

entire spectrum. In all likelihood, the United States will fight a number of small wars for limited objectives in the future, rather than a major war involving full mobilization. The resource management planner will have to balance the cost of these defense responsibilities with the cost of equipment necessary to deter war with our principal adversary. All of this comes upon us as major warfighting resources are more difficult to obtain; therefore, the modern resource manager must be more aggressive in stating his case, for that person can affect the readiness of the Army much more so than predecessors could.

V. STRATEGY

As we begin the last decade of the twentieth century, the basic goals of our national security policy remain essentially unchanged since the late 1940s:

1. To preserve the independence, free institutions, and territorial integrity of the United States.
2. To preserve US and allied vital interests abroad.
3. To shape an international order in which our freedoms and democratic institutions can survive and prosper—an international order in which states coexist without the use of force and in which citizens are free to choose their own governments.[56]

DETERRENCE

Our national strategy since World War II to achieve these goals was containment—to contain Soviet expansion into areas vital to our interests. The basic defense strategy used to implement the containment concept was deterrence. Deterrence means that we seek to protect our vital interests by being strong, not to enable us to resort to aggression or war, but to prevent war by our very strength. We seek to prevent war by persuading potential adversaries that the costs of attacking us will exceed any gain they could hope to achieve. This is the core of our defense

strategy today, as it has been for most of the postwar period.[57]

The focus of the post-World War II military concept of deterrence has largely centered on the Soviet Union. But in view of today's interdependent economic structure, the notion of deterrence has come to include maintaining a secure environment within which not only the United States but also its allies and friends can pursue legitimate interests. In the future, the United States may find itself increasingly vulnerable in a military conflict not directly involving the Soviet Union, because our vital interests are expanding and becoming increasingly resource dependent in areas not necessarily challenged by the Soviets as demonstrated by the Naval force deployed to the Persian Gulf in recent years.

The scope of deterrence, therefore, includes other countries that may threaten the vital interests of the United States. These vital interests include resources located in areas that may become inaccessible due to a regional conflict where, conceivably, neither the United States nor the Soviet Union would be directly involved. The United States may need to ensure continued access to such resources. Logically, we need more time to examine infrastructure, logistics, transit rights, and availability of supplies in those regions where the potential for conflict seems most likely.[58] Resource managers are valuable assets to planners when operations in such regions are under consideration, even with the apparent lessening of the Soviet threat.

To fulfill this strategy of deterrence, the Army is charged with the possibility of conducting land warfare against any enemy anywhere in the world. The array of potential operations can require any size unit, from a battalion to a mature theater army. Because of this wide range

of possible wars, there are few situations in which the United States would have substantial forward-deployed forces at the outbreak of war since the number of countries where the United States has staging areas has decreased as a result of agreements. This increases the probability that wars will be fought in countries where we do not have existing support bases. There may or may not be friendly populations, and there may or may not be facilities such as developed ports, highway networks, airfields, and railroads. Army forces must plan to conduct operations in such environments.[59]

Political trends in the United States, budgetary constraints, changes in priorities, and the effects of technology have resulted in a shrinking of both US military deployments and the basing structure supporting them from the Atlantic Basin to the Pacific arena. The most drastic deterioration of the overseas base structure has occurred in the western Pacific and around the Mediterranean Sea. The Mediterranean served as the pivotal area for the postwar US strategy of containment; for two postwar decades, it was an uncontested "American lake," patrolled by the Sixth Fleet. Today, uncertain political trends in Spain, Italy, Greece, and Turkey point to an even more somber future in this critical region.[60]

If there is one strategic lesson that stands out from all the others in the post-World War II period, it is that the United States no longer can go it alone. Fortunately, the nation has developed an elaborate structure of security alliances designed to achieve a level of deterrence and defense that would otherwise be unattainable.

COALITION WARFARE

One of the most important developments for the US Army in the twentieth century has been its participation in

coalition warfare and programs of mutual assistance. The nations of the world now belong to a global community which in all respects—political, economic, social, cultural, and technological—is increasingly interdependent.

After the early alliance with France in the Revolutionary War, the United States had no further experience with coalition efforts until the China Relief Expedition in 1900. Much more significant was World War I, when the United States, as an "associate" of the Allied Powers, geared its military production through 1918 to a division of labor with England and France. In World War II, the alliance of the United States and Britain, although never formalized by treaty, probably was the closest international military collaboration in history. Later, support of United Nations forces in Korea brought new complications and new experiences in coalition warfare, which provide the most valuable lessons of the Korean War.[61]

So diverse are the connecting points of the complex network within which nations exist today, that it is not possible for any single nation to be completely independent. Even with its immense strength, the United States is no exception. Where once geography permitted consideration of a policy of "splendid isolation," the results of the two world wars and ensuing changes have dictated that national interests will be served best in the future through voluntary association with other states having shared values or common objectives. As a result, for at least the past 40 years, our national security policy has been founded on the premise of collective defense.

This policy of collective defense is expressed in a series of multilateral and bilateral treaties, executive agreements, congressional resolutions, policy declarations, and communiques. These political commitments are

fundamental to developing our military strategy. Consequently, it is clear that any future military action involving the United States will likely occur in the context of "coalition warfare," that is, joint action with other nations to achieve a common purpose.

Coalitions are exemplified by Army forces in the North Atlantic Treaty Organization (NATO) area which would operate under one of NATO's major commands. Those in the Republic of Korea would fight as part of the US-ROK Combined Forces Command. In these theaters, doctrine, procedures, and principles have been developed and practiced to minimize the problems of interallied coordination.

Elsewhere, agreements on doctrine, principles, and operating techniques are only partially developed or do not exist at all. In such theaters, US and allied forces will have to work out procedures for combined operations under the pressure of imminent conflict, or even while operations are underway.

Most people look at the coalition strategy as the best of all possible worlds in the sense that it amplifies the power of each participant. This is, of course, the reason for negotiating such arrangements. However, from the perspective of the resource manager, coalitions also pose challenges.

The very nature of a multilateral strategy demands that the participants sacrifice some of their freedom of action. For instance, there is a problem of allocation of resources. Unless all partners of the coalition can perform their parts, their utility is diminished. Therefore, we must allocate resources in a manner to maintain an equilibrium. We may have to draw resources from the United States to support an ally who is in need, to the detriment of the

US forces. Though this use of resources may maintain equilibrium, it may result in a resource management conflict.

During World War II, the allocation problem involved our allies. Generally, the Anglo-American supply partnership functioned smoothly, but there was some dissension. Actually, only the Americans had any real stock of supplies to distribute. The British contended that allocation from American production should be made to the British in one block for their empire. The commanding general of the Army Service Forces tried to keep British requirements within reasonable limits and minimize emergency demands outside the Army supply program. He instituted a rigid review of British requirements to prevent use of lend-lease supplies for postwar economic recovery, for nonessential civilian purposes, and for accumulating excessive reserves. For example, when the Middle East ceased to be an active theater, the use of British surplus there for civilian purposes became a serious issue. On one occasion, the Americans learned of large supplies of rubber tires stored in Egypt, and forced the British to restate their entire requirements.[62]

As the preceding problem suggests, participation in multilateral defense arrangements frequently requires a degree of compromise which, in turn, complicates the military equation. In Vietnam, there were instances where allies did not want the United States to support any of the cost of their forces (Australia and New Zealand). However, they realized that there were many areas of support which the United States could handle more economically due to the extensive US administrative and logistical system. In order to offset an adverse balance of payments deficit in Australia, the United States agreed to accept sugar and other commodities as part of the

reimbursement.[63] This compromise placed an additional burden on the resource manager to account for the barter arrangement. Accounts had to be established and receipt of the deliveries confirmed before supplies from the United States could be released.

In summary, coalition warfare is well worth our great emphasis. But it carries with it some burdens which the resource manager must be aware of and constantly include in the planning process.

JOINT OPERATIONS

The doctrine for employing US fighting forces and conducting the war is just as important for designing the resource management function as the coalition warfare requirements. The doctrine today is called the airland battle. The airland battle doctrine developed by the Army is predicated on routine cooperation of Army units with the other services. In most cases, Army forces will also cooperate with US civilian agencies under the direction of the ambassador of the country. These extremely important arrangements will provide unique problems for the resource manager.

Joint forces operate within two distinct chains of command—one for operations, another for administrative and logistical matters. For operations, orders to commanders of unified and specified commands are issued through the Joint Chiefs of Staff. The Joint Chiefs prepare plans and provide strategic direction for the armed forces, including operations by commanders of the fighting commands.

The administrative and logistical chain of command encompasses those functions of the military services not included in strategic direction, such as resource management. The military departments are responsible for administrative and logistical support of their forces wherever

employed. Forces assigned to the fighting commands deal directly with their respective departments and services on matters which are the responsibility of the departments.[64]

Since resource management is an administrative function, the chain of command is through the military department. This arrangement poses some unique problems for the resource manager in providing support to the commanders "on the ground," whose operational chain of command is through the Joint Chiefs of Staff, whereas the administrative chain of command is through the Army. For example, there will be many instances where members of the other services are collocated with the Army without a logistical support base. They will require logistical and administrative support from the Army. The resource manager must ensure the structure is established and arrangements made for the resources to provide the support required. This has not been the case in the past.

In the early stages of the 1965 buildup in Vietnam, complications and administrative problems arose because of the multitude of funding channels in Vietnam. The different military services were responsible for providing various types of supplies and services, but generally were responsible to finance only the support of their own forces. This led to many peculiar and inefficient situations. For example, up-country military advisers were required to obtain their day-to-day logistical support from Saigon, located 200 miles away, even though the same support was available from much closer locations. Such support would have been financed by funds of another service. But no procedures existed to do this, and in fact, providing such support at no cost would have been technically illegal.[65]

Another experience occurred in Grenada. The XVIII Airborne Corps Finance and Accounting Officer reported that an Army helicopter carrying wounded Marines to a

Navy hospital ship was not allowed to refuel aboard the ship because the payment procedures were not established to permit the pilot to sign for the fuel. These brief illustrations serve to remind us of the importance of the role of resource managers in the planning process.

WHAT THE FUTURE HOLDS

The strategy of the United States to prevent an interruption of strategic supplies is deterrence. However, the loss of many of our forward staging areas reduces our capability to react to a crisis, which diminishes our deterrent capability. The loss of the forward staging areas also diminishes our capability to support our forces once deployed. To overcome this problem, the United States has adopted a policy of joint and combined operations. These policies dictate reliance on both the Air Force and Navy for tactical support, but not for logistical and financial support. It is up to the services to develop the structure and procedures to handle the logistical and administrative relationships. In addition, we must rely more heavily on our allies for tactical and logistical mutual support.

In order to provide combat service support for ourselves and our allies, the United States has two sources. First, we can bring it with us. Second, we can obtain it in the area of operations. However, in the course of developing the light infantry divisions to act as a reaction force, the United States elected to put most of the combat service support forces in the reserve components. Today, the Army National Guard and the Army Reserve provide two-thirds of the intra-theater logistics support capability for the armed forces. These are very capable forces, but due to our limited air and sea lift capability, they cannot arrive in the theater early enough to influence the battle effectively. Therefore, the United States must initially rely more on the

capabilities that exist in the theater of operations for logistical support.

This is where the resource manager can contribute his expertise. There must be someone on the ground aside from the logistician who can seek out the logistical support required by the commander. The logistician will have as much as he can handle in simply setting up the supply system coming from the United States, without having to worry about determining the capabilities of the local economy for logistical support and the support relationships with our allies. The logistician will have to arrange for one-half of the nondivisional logistics capability of each forward-deployed corps until support units from the Army Guard and Army Reserve arrive. But even after they do arrive, they will have great difficulty providing the balance of the required support. In the words of Louis J. Conti, Chairman of the Reserve Forces Policy Board:

> The Army Guard and Reserve have only 69 percent and 43 percent respectively of wartime equipment inventory in dollar value, with huge shortfalls in trucks, armored personnel carriers, and artillery pieces. Many units, if mobilized, would deploy with inadequate or incompatible equipment—including some committed to support the Rapid Deployment Force.[66]

The resource manager must also be available to provide advice to the commander on the economic ramifications of fighting the war. With the increasing interdependence of the world economy, destruction of a country's economic assets while conducting a campaign is no longer an option. Instead, we must consider the economic implications of our military actions: we cannot destroy the very interests that we were sent to protect.

Planners also need to consider the probability that the next war may not be a full-scale conventional or nuclear

war. Rather, there is an increased probability of small wars fought with limited objectives. Because such wars will not involve the total mobilization of the economy, there will be a demand for more prudent use of resources. As our planners consider the strategies necessary to achieve limited objectives, the objectives may very well have to be altered if the cost to meet them is too high.

It is now time to turn our attention to defining the mission and functions of the wartime resource manager. To do this, we will first look at the current state of controllership in private industry as a model for what the current concept of Army resource management should encompass.

VI. THE ART OF RESOURCE MANAGEMENT

We recognized the need for a wartime comptroller during the Vietnam War. It became sharply evident as the war progressed that the luxury of an open line of credit was not to be the case, partially as a result of Congress arming itself more formidably to defend its constitutional role. Many specialists involved in resource management believed that they would handle the Vietnam War much as they had operated during the Korean conflict. Since those involved in accounting controls or budgeting anticipated that the funds for the war would be unlimited, there was an inadequate organization base for resource management in the early days of the buildup.[67]

Because the concepts of wartime accountability and cost-effectiveness, as well as the functions of a wartime comptroller or resource manager, were relatively new, there wasn't much historical precedent to guide performance in Vietnam when the rules changed. Nor was there much to learn from Vietnam since the structure put in place during the war was a patchwork arrangement instituted under pressure and not completely effective. While the Vietnam experience provided some valuable lessons, it did not establish an appropriate baseline from which to develop a doctrine for wartime resource management. As a result, the Army did not acquire the experience

to help it ask the right questions to define the resource management doctrine problem.

The lack of historical documentation notwithstanding, the requirement for resource management in wartime is growing in importance. Moreover, the conduct of the next war will be markedly different. The nature of modern warfare, with its demand for advanced weaponry, sophisticated communications, and complex logistical systems, will require a high degree of technical and administrative skill and expertise in resource allocation.[68]

In the absence of a complete and documented historical perspective of the wartime role of the Army resource manager, the role and functions of a controller in private industry will help define the current state of the art. This is a reasonable point of departure since the legislated requirement for a comptroller in the Army used as its basis the private industry model.

THE CONTROLLER IN PRIVATE INDUSTRY

The term *resource management* developed gradually in the Army in the late 1970s and early 1980s. Originating from the comptroller function, the term gained favor after inclusion of the manpower control function in the Army Comptroller's office. *Resource management* helped distinguish the new element of manpower control from the previous and more limited notion of a comptroller's office. Regardless of the name, the intent was clearly to use the private industry "controller" as the model for the Army resource manager when the function was established after World War II.

Private industry's increasing use of a controller after World War II and its parallel application to the Department of Defense became more apparent with the introduction of Secretary of Defense McNamara's program budgets.

Historically, these program budgets were management control techniques pioneered earlier by DuPont and General Motors after World War I. After World War II, a number of large industrial corporations followed their example, including Ford Motor Company, which hired Mr. McNamara and others to revitalize that company's antiquated management procedures.[69]

To better understand the relationship between the private industry use of a controller and the application of this concept to the Army, let us make a comparison of the two organizations and how they operate.

A private sector business is tightly structured and contained in a fairly finite universe. The chief executive officer at the head is accountable to a board of directors and, ultimately, to all of the company's shareholders. In the interests of seeing regular payout of dividends, the shareholders closely monitor the enterprise's activities to ensure the protection of their investments. A great deal of attention is focused on the president or chief executive officer, and results are expected of him within a defined sphere. The corporate controllers are the people the company presidents rely on the most to control the activities and provide advice on alternative measures.[70]

In the private sector, the primary objective is to realize a profit—the higher it is, the more successful the company. Business enterprises operate on the basis of producing specific goods or services, marketable items that management believes can be sold at a profit. Many operations consist of complex, intertwined corporations with diverse product lines and services. Therefore, the means of maximizing profits become more complicated. The realm of determining how to increase profits is fertile ground for private-sector controllers to exercise their skills. Private-sector measurement, planning, and control systems are

aimed at maximizing profit. It is impossible, however, for a government to measure its performance in terms of profits because the notion of profits does not exist.

There is little question that controllers are key players in private-sector organizations. They play a pivotal role in marshalling the available resources for optimum results, and it is most unusual if their scope does not extend beyond basic control. Most private-sector controllers interact closely with the various engineering, product development, marketing, and manufacturing arms of an enterprise to develop strategies and product mixes. Certainly, there is much to challenge them.

Because the organizational relationships of the Army are similar to those of a private company, a corollary can be drawn between the two. In the Army, the board of directors could be considered the Secretary of the Army, the Under Secretary of the Army, and the Chief of Staff of the Army. The other element, the chief executive officer, normally a member of the board, is the Vice Chief of Staff of the Army.[71] A key member of the staff is the Assistant Secretary of the Army for Financial Management. He, as his private-sector counterpart, has sole responsibility for financial management.[72]

THE BOTTOM LINE

A corollary could also be drawn between product lines. Congressmen, as the stockholders, invest their money and expect Army management to support that investment by producing "ready units." So we can define our product as "ready units." The modifier *ready* is crucial since the units must be ready to defend the country. If they are not ready, they won't sell to the customer—the Commanders in Chief of the unified commands—and the United States would not achieve the final objective of

winning the war. You could carry this corollary on to describe the production facilities and suppliers. But the parallel between private industry and the Army eventually breaks down because private industry has a "bottom line" and the Department of the Army does not.[73] This distinction, in fact, makes the role of the resource manager in the Department of the Army even more challenging than his private-industry counterparts.

Even without the objective of a bottom line, it is relatively simple for the Army to determine how much has been spent, which is perhaps the reason it spends so readily. It is much more difficult to determine the results achieved from the expenditures made because Army objectives are often complex and broad, and we must consider factors such as regional and cultural matters as well as political and legal ramifications. The private-sector concept of effectiveness, expressed in terms of maximizing profits, is not transferable. Effectiveness in the Army, therefore, must be measured in a different manner.[74]

RESOURCE MANAGEMENT AND WAR

One of the obstacles to the development of the comptrollership (controllership) function in the Army is the feeling on the part of some commanders that the Army is different and does not lend itself to modern control methods. Basically, the problems do not vary much between private industry and the military. There are always the problems of determining policies, of planning for future action, of organizing, of controlling costs, of supervising inventory, and of planning production. Management employs workers in competition with other firms; they must train and supervise them and check their performance; they must purchase materials in proper quantities at proper times, and closely control investment in inventories; select, maintain and replace suitable equipment; arrange funding and keep it in proper balance; and

finally, they must properly coordinate all factors. These are not peculiar to any business; they are common issues that form the basis of the management task facing the Army in peace or in war. But there are some differences that we must consider when introducing the private-sector version of controllership to the Army:

1. Legislation establishes the basic rules for comptrollership in the Army, not "generally accepted accounting practices" or the rules of an association as exists in private industry. Legislation is law, and failure to follow the law could result in personal liability.
2. Resource accountability in military operations tends to blur comptrollership in the Army. Unlike private sector counterparts, Army commanders view all assets as available for immediate disposal. They may not be interested in the supply status of another command or theater, which could reduce the overall effectiveness of the Army.
3. Balancing the political process with the requirements of accountability and cost-effectiveness is difficult. The private company is only concerned with the results of its own operation and doesn't have to worry about the constituent pressures applied to politicians.
4. Centralization and decentralization pressures constantly ebb and flow in government structures and operations, making it difficult to apply consistent policies.[75]
5. The Army must contend with "colors of money," much like international currency, but here there is no central bank which will allow an exchange. Appropriations are restricted to specific purposes for which they were approved by Congress.
6. Military money has a termination clause which expires at the end of the fiscal year.

CONTROLLING

In the evolution of the controllership function, it is understandable that diversity between companies should appear. In most organizations, the certificate of incorporation, or bylaws, or resolutions by the board of directors set forth only the general financial duties to be performed; the additional duties assigned to the controller have no general bylaws or accepted precedents. They are influenced by such forces as the size and complexity of the company, industry practice, government regulations, the personality and ability of the controller, and the prevailing opinion of the chief executive and his associates about just what should constitute the job.[76] Perhaps this novel description captures the essentials of what a comptroller should do:

> The Controller is not the commander of the ship—that is the task of the chief executive—but he may be likened to the navigator, the one who keeps the charts. He must keep the commander informed as to how far he has come, where he is, what speed he is making, resistance encountered, variations from the course, dangerous reefs which lie ahead, and where the charts indicate he should go next in order to reach the port in safety.[77]

The one constant responsibility of a comptroller, encompassing all of the individual functions, is to provide control—to assure that an appropriate and effective control system is in place. This one responsibility, more than any other, is the foundation for the function of comptroller and applies equally to both the private and public sectors.

PLANNING

The current thinking is that the basic control authority of a controller is simply not adequate. Richard L. Fleming, President of Fleming Associates, says:

> The emerging Controller is not a green-eyeshade executive who focuses simply on historic financial data. The new controller is an active participant or director of corporate growth, using his or her financial management skills to create new opportunities on a sound basis.[78]

The controller is the individual who acts as an "honest broker" to provide opportunities for new growth. Alan G. Ross, Canada's Assistant Deputy Minister, Finance and Administration, maintains that the controller must be the individual who "will challenge or test ideas without vested program interests but to strengthen the case and, therefore, ultimately to strengthen the program."[79] A controller actively involved in business decisions has access to all sensitive information and deliberations in progress. Such a controller has an opportunity to put a stop to ill-conceived, ill-advised, or illegal decisions and actions before they are taken. A controller not actively involved is not privy to such information and can only provide after-the-fact or reactive control.

To fully realize the potential his function holds, the controller must immerse himself in the corporate planning process. Philip B. Johnson, Controller, Tennessee Operations, of the Aluminum Company of America, explains:

> Probably no activity is as important or time-consuming as that of planning the future course of a business enterprise. The larger the firm, the more complex the business; and the greater the number of different businesses in which the firm is engaged, the more difficult is the process of coordinating and accomplishing the activity. Yet the penalty for not planning is to go the way of the "buggy whip" companies. The Controller is uniquely qualified to provide the necessary coordination and "tying together" of the various divisional plans,

> quantifying the accumulated impact on the firm as a whole and identifying the conflicts that often occur.[80]

Planning is not always easy and exciting for many people. Preparing reports, analyzing data, auditing, scorekeeping, and doing systems work may seem interesting only to accountants. Activities which are more interesting, therefore, get top priority in people's work schedules in both time and commitment of energy and attention. Planning deals with the future, and the future is fraught with uncertainty. Dealing with uncertainty is more difficult than recording historical events. Planning makes you think! Assumptions must be made, data analyzed, and commitments made to achieve certain objectives. It is far easier to deal with activities for which a system has already been developed. It is not sufficient for the comptroller to be merely a scorekeeper. The comptroller must be sensitive to what may happen as well as to what has already happened.[81]

Based on the current literature about controllership in the private sector, the controller today must assume more responsibility and adopt a more creative approach. Controllers must expand their interest beyond the traditional areas. They should delve into all phases of the company's operation: the habits of the customers, the financial problems of the community, demography of the business location, the entire merchandising operation as it relates to profits. They should see trends long before others and report these trends to management for their consideration and corrective action. It is necessary now to translate these ideas about corporate controllership into a concept that is useful for the Army.

VII. THE WARTIME RESOURCE MANAGER

The Army builds the financial and logistic planning and manpower control processes around the development of operational war plans. Such plans are based upon the requirements of the tactical situation to ensure delivery of the necessary troops and equipment at the time and place required. The organizational structure prepares a separate staff element in each aspect of an operational plan—personnel, intelligence, concept of the operations, and logistics. Only then can financial planners develop plans to ensure that the Army obtains the resources in sufficient quantity, time, and "color" to carry out the operational plan. And only when the resource manager is involved in all these functions within the operational structure can we deem the planning process complete.

The linkages between the organizational structure and the resource management process, between the various types of financial and operational plans, and between approved resources and program results, confront the Army resource manager with a number of important wartime responsibilities. To meet these responsibilities, the resource manager must ensure that an appropriate and effective control system is in place to execute the operational plan.

MAKING THE ORGANIZATION WORK

A large, complex organization such as the Army needs a rigorous management control system to ensure that each staff element performs its tasks—that is, a control system to make the organizational structure accountable for the processes it performs. Specifically, the G4 is responsible for logistics as part of the organizational structure. The G4 now needs some means to determine if the process of developing the requirements for and delivering supplies to the troops is working. This cross-check requires that the control system link the organizational units into a clearly identifiable chain of accountability, ensuring that those who are delegated authority and responsibility can be held accountable for their actions to those who have conferred these powers upon them in the first place. Consequently, comptrollers, in concert with other members of the staff, can play a key role in the design of the organizational structure, since the organization cannot function efficiently without the structure itself being well designed.[82]

Generally, the structure within the military is well established. Its organizational chain of command is defined, the communications networks are spelled out, and coordinating points are carefully planned. But sometimes individual responsibilities—or processes—are not clear, for example, local procurement policy. In World War II the Army did not assign the local procurement policy to any organizational entity so it did not work well. With the move to joint and combined warfare, involving several military departments and many allies, the structure becomes even more vague. Even armies of the NATO alliance will not be fighting with the same doctrine, tactics, organization, and weapon systems. Therefore, a carefully studied "systems approach" to responsibilities and

organizations is a paramount requirement. Each staff element is responsible for designing its individual organization, but there must be an individual responsible for ensuring that all organizations and responsibilities are integrated and that controls are in place to ensure an integrated operation.

Today in Korea the Army's resource managers face just such a challenge: a collage of command and control organizations which have been in place for over 30 years. During the Korean War, the allied forces used trial and error with limited success to improve the command structure. Korean Brigadier General Taek- Hyung Rhee claims, "Had the US been more willing to use the South's potential to mobilize forces and provide arms for these forces to use, as she had with UN units, ... there would be now, at least, no direct threat from the North to Seoul."[83] Brigadier Rhee, in talking about the next war, goes on to say, "Certainly there will be no time to reorganize, to streamline command structures, or to insure responsiveness of command. A heavy North Korean attack could conceivably reach Seoul while commanders try to sort out responsibilities and reorganize as necessary."

The preceding example clearly shows a pressing need for process-structure alignment. Such an alignment by the wartime resource manager ensures that the organization is properly constructed and that specific responsibilities are assigned to specific organizations. After he establishes the structure the resource manager turns his attention to the processes that exist within the structure: the established processes provide the controls necessary for the commander to ensure the desired result is achieved or, if not, to determine what corrective actions can be taken. The resource manager develops a system of controls to provide the commander the information needed to make decisions within the established processes.

THE HONEST BROKER

At this critical juncture, the resource manager can now become an honest broker. Because comptrollers have no program responsibility, they can remain aloof from the partisan arguments often offered by other staff elements and, instead, offer the commander an objective evaluation. It is in this realm that the Army resource manager moves beyond his conventional "bean-counting" mindset and adopts a perspective much closer to that of the controller in the private sector discussed in chapter VI.

The resource manager's most artful role will be that of an objective adviser who can enhance the operational effectiveness of his organization by providing systematic and objective scrutiny. In a previous reference (p. 62) to his article, "A Prognosis for the New CFO," I quoted Richard Fleming's statement that resource managers cannot be green-eyeshade executives who focus simply on historical financial data.[84] This point bears repeating here. Indeed, resource managers must retain a broad perspective of the entire operation while being willing to go down in the trenches where the action is. The resource manager is always an active participant, using his financial management skills and personal involvement to create new opportunities.

In fulfilling the role of adviser, and as a member of the primary staff, the resource manager can be an active participant in policy development, rendering opinions on policy, procedures, and issues generated from all activities within the command—yes, even to the extent of evaluating war plans. Another important role will be to question whether specific proposals are consistent with policy and to determine the total effect proposals will have on the command's resources. The resource manager's final recommendations should become an essential element of all

decisions taken by commanders, since the resource manager obtains the resources required to support the proposal.

For example, the G4 in a campaign is responsible for obtaining replacement tanks for those that have been damaged or destroyed. The G1, the personnel officer, on the other hand, is responsible for obtaining replacement crews. Each of these staff elements tends to operate independently to accomplish its mission. In situations like this, the resource manager can provide a system of controls which ensures that both the tanks and the crews arrive concurrently in time to fight the next battle and accomplish the operational mission.

While the foregoing example suggests a necessary function of resource managers in a conventional, high intensity war, they can also perform vital tasks at the other end of the spectrum of conflict discussed in chapter IV. In Grenada, for example, the XVIII Airborne Corps Comptroller developed the option of locally contracting meals for the troops rather than shipping the food—and the soldiers required to prepare it—from the United States. This alternative not only saved valuable resources, but was more responsive to the commander's needs.

The advisory role of the resource manager, however, has two seemingly contradictory responsibilities. On one hand, the resource manager is responsible for providing assistance in the decisionmaking process. On the other hand, resource managers also are responsible for the integrity of the control system. In order to discharge the second responsibility of checks and balances, they are expected to retain a sense of objectivity and independence from the other staff elements. Emphasis on one makes effective performance of the other more difficult. It is analogous to the resource manager assisting the G4 in correcting a supply shortfall while at the same time being critical of the G4 for

failure to maintain control of the stock in question. Strong resource managers can, however, overcome this apparent dilemma and remain actively involved while retaining objectivity. The key lies in the development of certain personal qualities and interpersonal communication and other skills.[85] Due to the potential contribution resource managers may provide, it is important that they be allowed to perform both functions.

Thus far I have shown the essential contribution that the resource manager can provide within the structural and procedural framework of planning for and planning during war. But how will the resource manager actually assist the commander as he develops the plan and help him obtain the resources needed to support it?

THE 'A's' OF RESOURCE MANAGEMENT

A starting point for answering this question has already been provided by Lieutenant General Max W. Noah, former Comptroller of the Army. On 15 August 1985 he announced a new operational and organizational concept to all Army resource managers. General Noah stated, "The change is evolutionary and very necessary to the future success of the Army." The concept envisioned a more active role for the resource manager—the same kind now advocated in the private sector—with emphasis on providing improved services to leaders and commanders at all echelons in programming, budgeting, and execution of the resource program, improved productivity programs, and a standardized functional approach to installation management. In offering his proposals, General Noah also started the search to define the role and functions of a resource manager, a definition which has been absent, in a purely doctrinal sense, from the literature of the Army.

As part of this concept, General Noah identified the resource management process. He indicated it was an economic process involving:

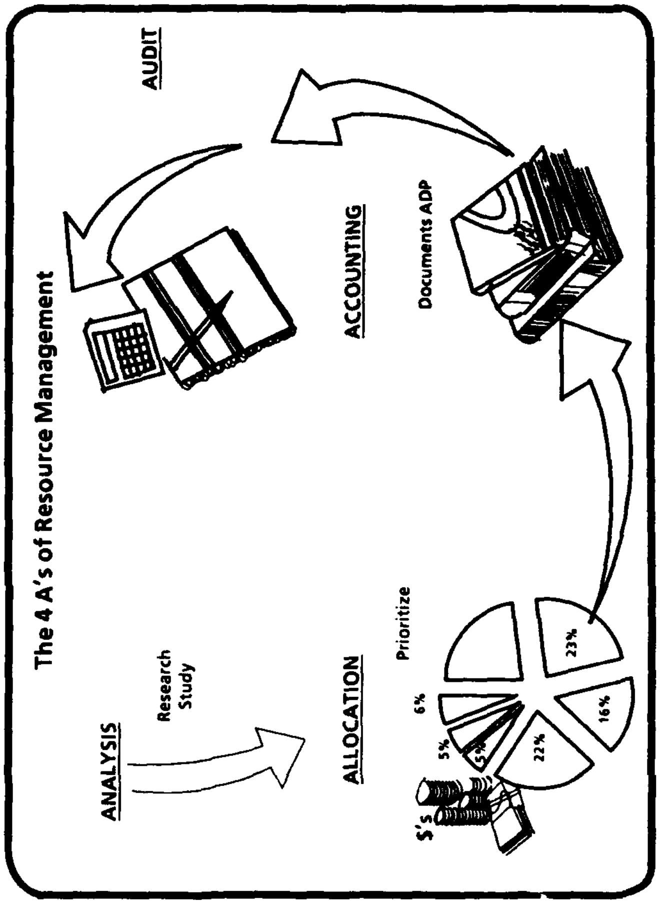
1. *Analysis* of planned priorities.
2. *Allocation* of resources according to the priorities, generally considered dollars and manpower.
3. *Accounting* for resources with two systems, one that provides decision support and tracking capability for the program-budget function, and another that performs accounting for fiscal compliance required by statutes.
4. *Audit* of the results of the process.

In this announcement, General Noah challenged resource managers to vigorously pursue these parts of the process, the "Four A's" of resource management (see figure 7:1).[86]

Late in December 1986, Brigadier General Richard J. Mallion, Director of Operations and Support in the Office of the Comptroller of the Army, continued the dialogue and development of the functions for resource managers. Like General Noah, General Mallion also offered "Four A's" of resource management; however, General Mallion combined the auditing process with the analysis process and added an acquisition function (see figure 7:2).[87]

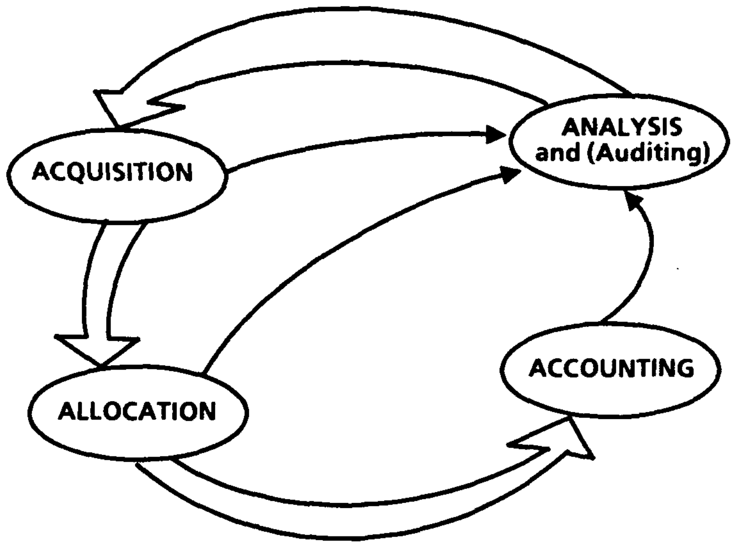
General Mallion now defined these A's of resource management as:

1. *Acquisition* The process of obtaining the resources to support the soldiers at the lowest echelons.
2. *Allocation* The process of communicating the resource decisions to the commands reporting to Headquarters, Department of the Army.
3. *Accounting* The process of capturing management information to support the resource analysis that must be performed.



Source: Max W. Noah, "COA's Organizational and Operational Concept," *Resource Management Journal,* Summer 1985, p. 5.

Figure 7:1—The Four A's of Resource Management



Source: Richard J. Mallion, "A Resource Management Vision," *Resource Management Journal*, December 1986, p. 20.

Figure 7:2—The Modified Four A's of Resource Management

4. *Analysis* The process of defining the inner meanings of data and presenting it all in some format which the decisionmakers understand.

The functions proposed by General Noah and modified by General Mallion provide a solid foundation for developing the wartime functions of the Army resource manager, but the final, essential element—the keystone of the process—is missing. The foregoing functional list, therefore, requires the addition of a fifth "A" to capture the *advisory* role which the resource manager must

perform if he is to meet the new fiscal responsibilities facing the Army.

A WARTIME RESOURCE MANAGEMENT MODEL

Combining the four A's of resource management developed by Generals Noah and Mallion with the fifth A of *advice* produces a resource management model that can guide the resource manager in performing his expanded wartime role (see figure 7:3). The model will adopt the concept of structure and process as applied to the organization earlier in this chapter. The structure will contain specific functions of the resource manager, whereas the process will be the connection of the functions with each other, as discussed next:

Acquire

One of the most serious problems within the Army is the complete independence of the planning function in relation to the budgeting function. There is one primary reason for this situation: separation of these functions was feasible when the Army was small or assumed an open line of credit during wartime. However, as was discussed in chapters I and II, this condition no longer exists. We can no longer expect an uncontested open line of credit in our future wars. It is necessary to constrain fiscally our war plans; the simple fact is that it is now mandated in the Goldwater-Nichols Department of Defense Reorganization Act of 1986, as discussed in chapter I. Therefore, in the construction of this resource management model, the function of planning has been included in the resource acquisition process.

After completing the plans one of the most important functions of the resource manager is to acquire the resources to support the plan. This is the first step in the

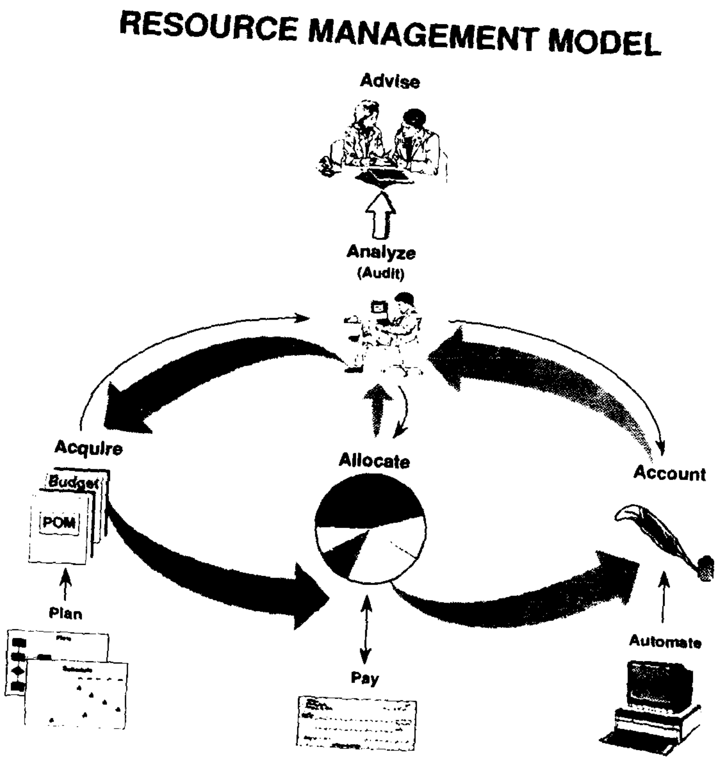


Figure 7:3—Resource Management Model

resource management process. The resource manager is responsible for coordinating the general management process, integrating the program and the budget, and defending the stated requirements contained in the program or the budget. General Mallion emphasizes the importance of the acquisition responsibility this way: "It becomes clear that if it's unsuccessful, it makes all the rest of this [resource management] useless."[88]

During war, the resource acquisition process takes on a different complexion. The conduct of our future wars will be quite different than that of wars in the past, as discussed in chapters IV and V. We will be involved in joint and combined operations which will require that the Army's personnel and logistics systems tie in with those of the other services and other countries. At this time we do not know the source of the resources required for all of the forces involved to support the next war. Therefore, a resource manager, as a permanent member of the commander's staff, sorts out the alternatives. This critical role cannot be left to someone who is uninformed about the intricacies of resource acquisition. The problem is not simply the development of a budget and obtaining an appropriation from Congress. It may involve a cost-sharing process with our allies. These international arrangements require a sophisticated understanding of the conduct of the war and the cost incurred.

Allocate

Following the acquisition of the resources, we allocate them to obtain the maximum effect in accomplishing the mission set by the commander—whether the choice is between two divisions with different missions in the same theater during a conventional war or between a low intensity war in one area and a theater where only deterrence is the mission. The artful aspect of the allocation process is

to provide one commander with all that he may need to achieve victory but, at the same time, not to hamstring other commanders to such an extent that they cannot perform their missions.

With the advent of coalition warfare, the allocation process becomes even more difficult than just allocating resources among competing US requirements. Resources will have to be allocated to allies who are participating in the conflict as partners with the United States. Some allies may take the opportunity to improve their country's economic well-being rather than devote all of the resources received from the United States to the war effort. The commander must be conscious of this possibility and establish the controls necessary to preclude such a diversion of assets.

A subset of the allocation process is the payment process. Given the limited air and sea lift capabilities available in the United States for supplying our forces in many overseas areas, we will have to resort to considerable local procurement. If the payment process does not work well—to the satisfaction of the supplier—the source of supplies will dry up quickly. It is important to note this critical function as part of the resource allocation process. The resource manager is the individual responsible for paying the bills.

Account

After we have allocated the resources we must verify the transactions—the function of accounting, and one that is receiving greater and greater attention. Congress, to fulfill the role mandated by the US Constitution to raise and support the Army, is demanding more and more accountability from our commanders—even during wartime. All indications are that Congress intends to continue to fulfill this responsibility. During the Grenada operation,

Congress insisted on a complete accounting of costs before they provided the resources. Eventually, the Army was successful in obtaining the additional funds for the mission, but only after a full accounting was made. Had these funds not been made available, the transfer of Army resources to the Grenada operation would have seriously affected the readiness of the Army in many other regions of the world.

The traditional role of accounting includes a variety of tasks such as implementing the departmental accounting policy, carrying out accounting functions to comply with legislation, meeting the requirements of commanders, and making periodic summary statements. This traditional role also includes responsibility for the protection of public property through the implementation of an effective system of internal controls. However, this is not enough to justify and successfully implement a wartime comptroller concept. This aspect of accounting is, for the most part, externally oriented. An expanded role is envisioned to provide responsive internal controls for the commander.

This expanded role for accounting will provide more timely and responsive information and feedback, enabling commanders and staffs to reach more timely and accurate decisions. In decisionmaking, accounting can help the commander identify trends and enable the staff to make projections. Commanders need an interpretation of the results of past decisions, and they most assuredly need an analysis, in financial terms, of potential results of probable courses of action. This aim implies that the financial information system must be an integral part of all of the systems supporting the command—the logistics system, the personnel system, and the planning system. To participate with the rest of the staff in planning future missions, the resource manager must direct his activity toward what should be rather than what has been.[89]

One of the most important tools of the trade of accounting is automation; therefore, we identify it as an important subset of the accounting function. Since resource managers are responsible for providing information to the decisionmakers to facilitate the decision process, they are involved in designing management information systems. The resource manager ensures that a system of controls is established that will prevent a duplication of effort, and that the various systems in use in the Army are compatible.

Analyze

The hub of the resource management process is analysis. It is this function that the resource manager can best perform. With special training in analytical techniques, the resource manager can evaluate the many options provided to a commander and provide him an objective opinion. The resource manager will draw from the data provided from the accounting systems, interpret the data, and provide advice to the commander. In fulfilling this role, the resource manager must pay particular attention to the financial implications of various proposals put forth, and strive to produce an objective, internal study of the merits of various proposals.

Analysis also includes auditing, but not just internal audits. Instead, the resource manager should focus on management audits and operational audits. Management audits examine and appraise organizational goals and analyze the adequacy or inadequacy of the decisions and actions taken to achieve them. Operational audits focus on the organization rather than the management. Operational audits are an organized search for efficiency-related problems.[90] Properly performed, such audits provide another opportunity for the resource manager to provide sound advice and recommendations to the commander.

Advise

In performing each of the functions which comprise this model, the Army resource manager has an implicit responsibility to advise his commander and to take an active role with the other staff principals in shaping the decisions which will affect the course of any future conflict. From this implicit responsibility derives the explicit function, the keystone of the model, which the resource manager must perform. Only by providing informed, accurate, timely advice and recommendations can the resource manager ensure that the Army will be able to perform its mission effectively within the fiscal constraints it will face in the future.

TOWARD A DOCTRINE FOR RESOURCE MANAGEMENT

The preceding functional model was developed based on the forces that necessitate an expanded role for the wartime Army resource manager. These forces, outlined in the earlier chapters, can be summarized in the following propositions:

1. The cost of undertaking a military action is now as important as the reason or objective for undertaking such action.
2. In the foreseeable future, limited wars are more likely than conventional wars. Limited wars entail limited objectives and a correspondingly limited application of military force. Thus, we must manage resources all the more carefully.
3. The increased likelihood of joint and multinational military operations, particularly in regions where no US forces are deployed forward, will necessitate meeting Army requirements from outside traditional Army sources.
4. As always, commanders are ultimately responsible for the success of any military action, but

now they are also accountable for the resources they employ.

A single concern dominates each of these propositions, a concern which, not unexpectedly, is one of the principles of war: economy of force, or, in this case, economy of resources. With this in mind, I venture the following in an initial attempt to develop a doctrine for wartime resource management:

1. Fiscal constraints must be an essential element in the development of war plans. Common sense warrants it; the Goldwater-Nichols Act mandates it.
2. The cost of undertaking a military action is quantifiable. We are obligated to develop the most effective yet least costly course of action. And—a corollary—as its cost is reduced, the legitimate employment of military force becomes a more feasible alternative for pursuing limited objectives in the national interest.
3. On the battlefield, innovative resource management must become a combat multiplier. The resource manager can conserve force costs by efforts to balance operational plans with resource plans and sustain the force by developing new ways and means to obtain and provide resources.
4. The resource manager must assist the commander and the command in their efforts to maintain accountability and protection for the assets and resources employed. This will enable more accurate determination of requirements during the conflict as well as afterward when the bill comes due.
5. To accomplish the foregoing, resource managers need to advance beyond their traditional roles

> and become active, aggressive, innovative members of their commanders' staffs, willing—and competent—to advise their commanders on all aspects of resource management.

The doctrine proposed above is only a "first cut," but a carefully considered one. The last element, in particular, may seem provocative; perhaps it's not even an element of doctrine but rather a consequence of the doctrine. I leave it there as the central issue in the debate which I hope will follow. The need for this debate seems clear.

At the end of Chapter I, I suggested that someday we might find ourselves fighting a war we can't pay for. But perhaps the problem is something more along these lines: someday we might find ourselves facing a war that we aren't willing to pay for. Congress, not the military, makes that decision. But we can influence such decisions by innovative wartime resource management, by carefully balancing the size—and, therefore, the cost—of the force employed with the objective at hand. Remember, the problem with Grenada was not the objective set by the administration but the clamor afterward that too large a force and too many resources were devoted to the operation. In this respect, then, the resource manager can perform a vital service by trying to prevent such imbalances. Otherwise, the country might, someday, have a legitimate national interest to protect, but our inability to justify it financially will preclude us from taking action, or worse, prohibit us from completing a task once begun.

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